

Digi — Manual

Kanardia d.o.o.

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A lot of useful and recent information can be also found on the Internet. See <http://www.kanardia.eu> for more details.

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Revision History

The following table shows the revision history of this document.

| Rev. | Date | Description |
|------|--------------|------------------------|
| 1.0 | January 2020 | Initial manual release |
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1 Introduction

First of all, we would like to thank you for purchasing our device.

Digi is an electronic display, which usually displays engine information. In most cases it works in a pair with Daqu (EMS box) unit. However, Digi can also show other flight parameters. In fact, it can show most information found on the CAN bus and it is not strictly limited to EMS only.

This manual describes the technical description of the unit, installation and operation.

1.1 General Description

Digi is a plug-and-play electronic engine monitoring display. Device consists of electronics which captures the engine data from CAN bus and displays it on 4.3 inch sunlight-readable LCD display. The device itself is only 15 mm thick which allows simple installation even where space is limited.

Digi can be configured to display most engine or flight parameters that are present on CAN bus. It can also display visual alarms when specific parameter value is out of predefined range.

1.2 Technical Specification

Table 1 shows some basic technical specification of Digi.

1.3 Engine Time

When requested, Digi can be equipped with internal memory device to count engine time. This is usually required when Digi is the only device, which connects to the Daqu EMS box.

| Description | Value |
|-----------------------|---|
| Weight | 140 g |
| Size | 117 x 71 x 17 (50 with connectors) mm |
| Operational voltage | 6 to 32 V |
| Power consumption | 2 W |
| Current | 169 mA at 12 V 85 mA at 24 V |
| Operating temperature | -30 °C to +85 °C |
| Humidity | 30 % to 90 %, non condensing |
| Panel hole | rectangular 108 x 70 mm (refer to installation section) |
| Display | Diagonal: 4.3 inch Resolution: 480 x 272 Brightness: 1000 cd/m ² |
| Communication | CAN bus, 29 bit header, 500 kbit, Kanardia protocol |

Table 1: Basic technical specifications.

2 Display Layout

2.1 Layouts for OEMs

The instrument can be delivered with different display layouts. Please contact Kanardia about layout options.

2.2 Custom Layouts

Special application called *Customizer* can be used to design the Digi layout. This app is available for download from our web site since February 2020. In addition to customizer, *Blu* CAN bus – bluetooth

interface module and *Kanja* Android app are also required to transfer the layout into the Digi.

A layout is put on Digi in the following steps:

1. Use the Customizer app on your PC to create the layout.
2. Transfer the resulting layout file to your Android device.
3. Insert the Blu module into Digi and use the Kanja app to copy the layout file to Digi.

Please refer to the Customizer manual for details about how to create the layout and to the Kanja manual for details about how to work with Android device.

3 Installation & Maintenance

3.1 Mounting Dimensions

Digi requires a 108 x 70 mm rectangular hole in the instrument panel. The position of the hole must ensure that the instrument is always visible from the pilot's perspective.

The instrument is mounted using four M3 screws, washers and nuts. To prevent internal stresses, please make sure that the instrument panel is flat. It is recommended that the instrument panel is mounted using rubber shocks, which reduce the vibrations.

Figure 1 illustrates panel cutout and mounting holes for Digi instrument.

3.2 Connections

Figure 2 illustrates all connections at the back side of the instrument. There are only two RJ45 CAN connectors and one power connector.

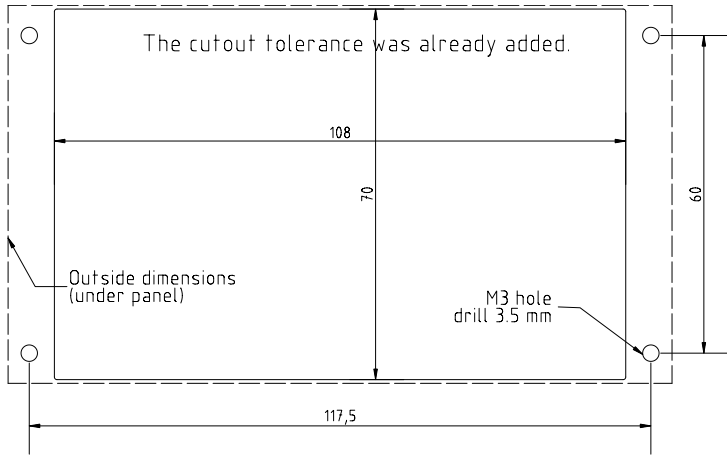


Figure 1: Instrument panel cutout and mounting holes. Note: Figure is not in scale.



Figure 2: Back view of the Digi with connections.

3.2.1 CAN Bus - CAN

Standard RJ45 computer cable is used to connect Digi to the Kanardia CAN bus. When connecting Digi to Daqu, special RJ45-Binder

cable is needed due to different connector type on the Daqu side. (The cable comes with the Daqu unit.)

Figure 3 and Table 2 defines the pin out of the CAN bus.

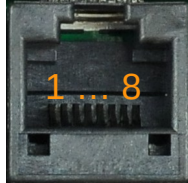


Figure 3: Illustration of the pin out of the CAN ports.

| Pin | Description |
|-----|---------------|
| 1 | +12V out. |
| 2 | +12V out. |
| 3 | +12V out. |
| 4 | CAN low. |
| 5 | CAN high. |
| 6 | GND – ground. |
| 7 | GND – ground. |
| 8 | GND – ground. |

Table 2: Description of pins for the CAN bus communication.

3.2.2 Power - POWER

Connect supplied power cable at the back of the instrument. Power connector has a notch on one side, which protects against wrong polarity.

Connect blue lead to negative (ground) terminal and red lead to positive (+12-24 V) terminal.

A 0.5 ampere slow fuse or similar shall be used on the positive lead.

3.3 Maintenance

No special maintenance is required.

3.4 Repair

The Indu airspeed has no serviceable parts inside. In the case of malfunction, it must be sent to factory for a repair.

4 Limited Conditions

Although a great care was taken during the design, production, storage and handling, it may happen that the Product will be defective in some way. Please read the following sections about the warranty and the limited operation to get more information about the subject.

4.1 Two Years Warranty

Kanardia d.o.o. warrants the Product manufactured by it against defects in material and workmanship for a period of twenty-four (24) months from retail purchase.

Warranty Coverage

Kanardia's warranty obligations are limited to the terms set forth below:

Kanardia d.o.o. warrants the Kanardia-branded hardware product will conform to the published specification when under normal use for a period of twenty-four months (24) from the date of retail purchase by the original end-user purchaser ("Warranty Period"). If a

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This Limited Warranty applies only to hardware products manufactured by or for Kanardia that have the "Kanardia" trademark, trade name, or logo affixed to them at the time of manufacture by Kanardia. The Limited Warranty does not apply to any non-Kanardia hardware products or any software, even if packaged or sold with Kanardia hardware. Manufacturers, suppliers, or publishers, other than Kanardia, may provide their own warranties to the Purchaser, but Kanardia and its distributors provide their products *AS IS*, without warranty of any kind.

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This warranty does not apply: (a) to damage caused by use with non-Kanardia products; (b) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (c) to damage caused

by operating the product outside the permitted or intended uses described by Kanardia; (d) to damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of Kanardia or an Kanarida Authorized Reseller; (e) to a product or part that has been modified to significantly alter functionality or capability without the written permission of Kanardia; (f) to consumable parts, such as batteries, unless damage has occurred due to a defect in materials or workmanship; or (g) if any Kanardia serial number has been removed, altered or defaced.

To the extent permitted by applicable law, this warranty and remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, statutory, express or implied, including, without limitation, warranties of merchantability, fitness for a particular purpose, non-infringement, and any warranties against hidden or latent defects. If Kanardia cannot lawfully disclaim statutory or implied warranties then to the extent permitted by law, all such warranties shall be limited in duration to the duration of this express warranty and to repair or replacement service as determined by Kanardia in its sole discretion. Kanardia does not warrant that the operation of the product will be uninterrupted or error-free. Kanardia is not responsible for damage arising from failure to follow instructions relating to the product's use. No Kanardia reseller, agent, or employee is authorized to make any modification, extension, or addition to this warranty, and if any of the foregoing are made, they are void with respect to Kanardia.

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4.2 TSO Information — Limited Operation

This product is not TSO approved as a flight instrument. Therefore, the manufacturer will not be held responsible for any damage caused by its use. The Kanardia is not responsible for any possible damage or destruction of any part on the airplane caused by default operation of instrument.